



**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Fifty-third session**

Geneva, 25 June-4 July 2018

Item 5 (b) of the provisional agenda

Transport of gases: miscellaneous**Update of LC₅₀ values in P200****Transmitted by the International Organisation for Standardisation
(ISO)*****Introduction**

1. When the LC₅₀ values of the toxic gases were added to P200, ISO 10298:1995 *Gas cylinders - Gases and gas mixtures - Determination of toxicity for the selection of cylinder valve outlets* was used as the reference source. These values were verified by the National Institute of Standards and Technology (NIST) in the United States of America and The Federal Institute for Materials Research and Testing (BAM) in Germany. The 1995 version of this standard has been updated twice, in 2010 and 2018. This has prompted a review of the values in P200 in the twentieth revision of the Model Regulations and there are eight toxic gases which show different values from the ISO standard. It is therefore proposed that P200 is aligned with ISO 10298:2018.

Proposal

2. The table below show the LC₅₀ values in ml/m³ for eight toxic gases both in 4.1.1.4 P200 Table 2 (twentieth revision) and in ISO 10298:2018 Annex B, Table B.1. It is proposed that the values shown in the far-right column replace those currently in the Model Regulations.

* In accordance with the programme of work of the Sub-Committee for 2017-2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

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UN No.	Proper Shipping Name	LC ₅₀ in ml/m ³ in P200, 20 th Rev.	LC ₅₀ in ml/m ³ in ISO 10298:2010
1008	BORON TRIFLUORIDE	387	864
1859	SILICON TETRAFLUORIDE	450	922
2188	ARSINE	20	178
2196	TUNGSTEN HEXAFLUORIDE	160	218
2198	PHOSPHOROUS PENTAFLUORIDE	190	261
2202	HYDROGEN SELENIDE	2	51
2534	METHYLCHLOROSILANE	600	2 810
2676	STIBINE	20	178

Justification

3. ISO 10298:2018 and its previous 2010 edition were based on wide-ranging research into the latest toxicological data on these gases and the standard lists the references on which these LC₅₀ values were based. The 1995 edition has proved to be a sound basis for P200 and there are relatively few changes given the fact that scientific knowledge continues to advance.

4. It is acknowledged by the proposers that all these changes show that these gases are less toxic than previously believed and therefore the Sub-Committee may wish to seek independent advice before agreeing to this proposal.